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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,586	09/18/2003	Terry L. Gilton	MICRON.272A	9170
20995	7590	08/24/2005	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP			NGUYEN, SANG H	
2040 MAIN STREET			ART UNIT	
FOURTEENTH FLOOR			PAPER NUMBER	
IRVINE, CA 92614			2877	

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/666,586

Applicant(s)

GILTON, TERRY L.

Examiner

Sang Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 25-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/9/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I (claims 1-24) in the reply filed on 08/01/05 is acknowledged.

Applicant is required to cancel the none-elected claims 25-51.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 02/09/04 has been entered. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

Claim 5 is objected to because of the following informalities:

Claim 5 line 1; the "the optical scanner" should change to --an optical scanner--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 7-10, 14-21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheer et al (U.S. Patent No. 5,194,297) in view of Ballas et al (U.S. Patent No. 4,812,396).

Regarding claim 1; Scheer et al discloses a method for detecting a particle on a substrate, comprising:

A liquid monomer (col.3 lines 37-44) of an atomizer (11 of figure 1) is contacted to the substrate (19d of figure 1) and a particle counter (col.5 lines 17-20) considered to be a laser source (21 of figure 1) and a detector array (25 of figure 1) for detecting the particle (13 of figure 1) on the substrate (19d of figure 1 and col.4 lines 10-25).

Scheer et al teaches all of features of claimed invention except for the particle catalyzes the polymerization of the monomer. However, Ballas et al teaches that it is known in the art to provide method for detecting enzymatic activity using particle (abstract) comprises the particle catalyzes the polymerization of the monomer (col.5 lines 15-32). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with the particle catalyzes the polymerization of the monomer as taught by Ballas et al for the purpose of detecting accurately enzyme on the achieving optimum sensitivity substrate with high speed.

Regarding claim 2; Scheer et al teaches of the particle counter (25 of figure 1) for detecting a property selected from the group consisting of number of particles, sizes of particles, position of the particles and combination thereof (figures 3A-3C).

Regarding claims 7-8; Scheer et al teaches all of features of claimed invention except for the composition of the particle is identified by the polymerization rate of the monomer. However, Ballas et al teaches that it is known in the art to provide the composition of the particle is identified by the polymerization rate of the monomer 9col.5

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lines 5-32 and table I and II). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with the composition of the particle is identified by the polymerization rate of the monomer as taught by Ballas et al for the purpose of detecting accurately enzyme on the achieving optimum sensitivity substrate with high speed.

Regarding claims 9-10; Scheer et al teaches all of features of claimed invention except for the monomer is polymerized by a plurality of particles types for repeating contacting and detecting. However, Ballas et al teaches that it is known in the art to provide the monomer is polymerized by a plurality of particles types (col. 5 lines 5-8 and table I and II). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with the monomer is polymerized by a plurality of particles types as taught by Ballas et al for the purpose of visual detecting particle aggregation because direct agglutination is easier to direct detect than agglutination inhibition.

Regarding claims 14-15; Scheer et al teaches of the particle (913 of figure 10) is a metal which is Al 9col.3 lines 55-58). Sheer et al teaches all of features of claimed invention except for the metal is copper [Cu]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with the metal is copper, since it has been held to be within the general skill of a worker in the art to select a known material

on the basis of its suitability for the intended use as a matter of obvious design choice.

In re Leshin, 125 USPQ 416.

Regarding claims 16-17 and 24; Scheer et al the substrate (51 of figure 3A) is silicon or single crystal silicon wafer (51 of figure 3A-3C) with irradiated by electromagnetic radiation or laser source.

Regarding claim 18; Scheer et al teaches of the monomer is in a vapor phase (11, 12, 16, 18 21 of figure 1).

Regarding claims 19-20; Scheer et al teaches all of features of claimed invention except for the monomer is an alkene, wherein the alkene is selected from group consisting of styrene, methyl acrylate, ethyl acrylate, methyl methacrylate, and acrylonitrile (col.5 lines 25-32). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with the monomer is an alkene, wherein the alkene is selected from group consisting of styrene, methyl acrylate, ethyl acrylate, methyl methacrylate, and acrylonitrile as taught by Ballas et al for the purpose of adding material at a controlled rate to increase the size of the particles in the seed emulsion.

Regarding claim 21; Sheer et al teaches all of features of claimed invention except for the monomer is selected from the group consisting of aniline and thiohene. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with the monomer is selected from the group consisting of aniline and thiohene, since it has been held to be within the general skill of a worker in the art to select a known

material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Ileshin, 125 USPQ 416.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scheer et al in view of Ballas et al as applied to claim 1 above, and further in view of Asano (JP 2003031542).

Regarding claim 3; Scheer et al in view of Ballas et al discloses all of features of claimed invention as indicate claim 1 except for the particle counter for detecting particles on both sides of the substrate with unmounting the substrate. However, Asano teaches that it is known in the art to provide (abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with the particle counter for detecting particles on both sides of the substrate with unmounting the substrate as taught by Asano for the purpose of detecting accurately particles on the wafer with high speed during wafer cleaning.

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheer et al in view of Ballas et al as applied to claim 1 above, and further in view of Tullis et al (U.S. Patent No. 5,144,524).

Regarding claims 4-6; Scheer et al in view of Ballas et al discloses all of features of claimed invention as indicate claim 1 except for an optical scanner is a laser scanner and the particle counter for detecting a property selected from the group consisting of absorbance, fluorescence, reflectance, refractive index, and polarization. However, Tullis et al teaches that it is known in the art to provide an optical scanner is a

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laser scanner 955, 57 of figure 100 and the particle counter considered to be a detector 964 of figure 100 for detecting a property selected from the group consisting of absorbance, fluorescence, reflectance, refractive index, and polarization 9col.7 lines 33-68 and table I and II). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with an optical scanner is a laser scanner and the particle counter for detecting a property selected from the group consisting of absorbance, fluorescence, reflectance, refractive index, and polarization as taught by Tullis et al for the purpose of detecting and analyzing particles on the silicon wafers with parameters as sensitivity, counting accuracy, uniformity, dynamic range, spatial resolution and stability.

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheer et al in view of Ballas et al as applied to claim 1 above, and further in view of Yoshimura (U.S. Patent No. 5,194,548).

Regarding claims 11-13; Scheer et al in view of Ballas et al discloses all of features of claimed invention as indicate claim 1 except for a plurality of monomers contacted the substrate in simultaneously or sequentially. However, Yoshimura teaches that it is known in the art to provide a plurality of monomers (figures 15A-15F) contacted the substrate (10 of figures 15A-15F) in simultaneously or sequentially (col.7 lines 45-63 and col.11 lines 23-45). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with a plurality of monomers contacted the substrate in

simultaneously or sequentially as taught by Yoshimura for the purpose of improving of the nonlinear optical characteristic materials during forming molecular beam deposition or molecular beam epitaxy.

Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheer et al in view of Ballas et al as applied to claim 1 above, and further in view of Hahn (U.S. Patent No. 4,170663).

Regarding claims 22-23; Scheer et al in view of Ballas et al discloses all of features of claimed invention except for further an initiator is benzyl bromide. However, Hahn et al teaches a free radical initiator is benzyl bromide (col.7 lines 10-20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Scheer et al with an initiator is benzyl bromide as taught by Hahn et al for the purpose of reducing low gloss and substantial resistance to burnishing during radiation curable organic material.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Heo et al (6724474) discloses wafer surface inspection method; MatSushita et al (6320655) discloses detecting position identifying method; Liu (5534309) discloses method and apparatus for depositing particles on surfaces; Tarcha et al (5252459) discloses indicator reagents, diagnostic assays; or Coker (3897586) discloses polymer coated pigment particles and process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Nguyen whose telephone number is (571) 272-2425. The examiner can normally be reached on 9:30 am to 7:00 pm.

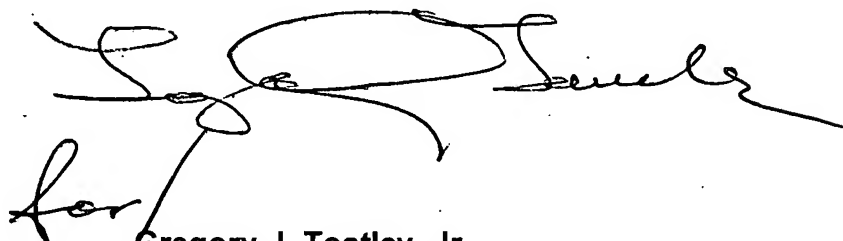
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SN

Sang Nguyen/SN

August 10, 2005



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